



Space, Missile, Command, and Control

DEPLOYMENT OF AIRFIELD OPERATIONS

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This manual implements AFD 13-2, Air Traffic Control, Airfield Management, and Range Management. It defines operations, command relationships, training standards, and capabilities of airfield operations and Deployable Air Traffic Control and Landing Systems (DATCALS) in a single-integrated concept. It is designed to provide guidance on Air Force airfield operations' unique planning aspects not addressed in Joint Operations Planning and Execution System (JOPES) documents and to complement Air Force planning at all levels. This manual is not intended to replace or supersede AFIs 13-203 or 13-213. If there is a conflict between this manual and other AFIs, notify HQ AFFSA/XA of the conflict. Air traffic controllers, communications-electronics maintainers, airfield management, and planners should be familiar with this manual to ensure they understand proper deployment for combat operations. Users of this manual should familiarize themselves with the referenced Department of Defense (DoD) guidance.

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Chapter 1**GENERAL**

1.1. Purpose. This manual outlines how facility operators for both Air Traffic Control (ATC) and airfield managers will deploy, operate, and sustain Deployable Air Traffic Control and Landing Systems (DATCALs) to support operations from bare base to host nation locations. While the focus of the concept is on deploying large scale forces into a bare base scenario, airfield operations can also be adaptable to small unit and/or single mission deployments. The goal of this document is to define and standardize how operators deploy and support initial and sustained airfield operations.

This document outlines the roles and responsibilities of operational planners, ATC, and airfield managers to support DATCALs and users. Finally, this manual will lay out how we support Theater Battlefield Management (TBM) through combat airspace and the integration of the airfield operations into war fighting plans.

1.2. Mission. The airfield operations mission is to deploy worldwide in support of operational forces at host nation or bare base locations and provide basic airfield services and combat airspace support to the theater Air Operations Center (AOC). DATCALs provide the capability to identify, sequence, and separate aircraft; provide final approach guidance and control instructions to aircraft at deployed locations in all types of weather. DATCALs equipment and personnel can be employed to provide liaison, control tower, Radar Approach Control (RAPCON), precision landing capabilities, and mobile Tactical Air Navigation Aid (TACAN) services or any combination.

1.3. Assumptions.

1.3.1. Airfield operations for the purpose of this manual is defined as the communications-electronics (equipment and maintainers) and operations (air traffic controllers and airfield managers). Airfield operations consist of the following core

capabilities: DATCALS equipment and personnel (air traffic control, airfield management, and communications-electronics maintenance).

1.3.2. Augmentation to host nation will augment (not replace) the existing ATC and airfield management systems.

1.3.3. Continuing support to the National Airspace System (NAS) as an in-place mission and support for deployed forces comprise the airfield operations' core support areas. Airfield Operations Flights (AOF) provide assets to support the wartime/contingency taskings first and in-place taskings second.

1.3.4. Airfield operations is not a part of the core Unit Type Code (UTC) package. Airfield operations is a support UTC organized, trained, and equipped in a functional area to support dedicated locations versus type and number of aircraft at beddown locations.

Chapter 2

COMMAND AND CONTROL RELATIONSHIPS/STRUCTURE

2.1. Air Staff Responsibilities. HQ Air Force XO and SC Program Guidance Letter establishes the direction, assigns responsibility, and provides guidance for the management of DATCALS.

2.1.1. AF/XOO through the HQ Air Force Flight Standards Agency (AFFSA) will:

2.1.1.1. Act as the single ATCALS (fixed and deployable) Program Objective Memorandum (POM) advocate.

2.1.1.2. Serve as ATC and airfield management functional managers.

2.1.1.2.1. Maintain a current list of UTCs tasked in exercises or real-world contingencies and coordinate with Air Force Operations Center (AFOC) and MAJCOMs on special missions.

2.1.1.2.2. Follow guidance in AFMAN 10-401.

2.1.1.2.3. Maintain personnel deployment data.

2.1.1.3. Develop the policy and guidance for DATCALS and airfield operations readiness.

2.1.1.3.1. Publish airfield operations guidance in War Mobilization Plan (WMP) Vol 1, Annex II.

2.1.1.3.2. Maintain/validate WMP Vol 3, Part 2, UTC availability for 7FVL*. (* denotes all in the series)

2.1.1.4. Conduct the DATCALS working group.

2.1.1.5. Maintain the airfield operations and DATCALS training standards.

2.1.1.5.1. Maintain combat skills and wartime readiness training standards.

2.1.1.5.2. Develop cradle to grave training plan concept.

2.1.1.6. Function as the lead office for combat airspace policy and guidance.

2.1.2. HQ USAF/XOOR will function as the ATC Program Element Monitor (PEM) for Program Element Code (PEC) 35114.

2.1.3. AF/SC staff will:

2.1.3.1. Serve as supporting functional manager for airfield operations.

2.1.3.2. Maintain/validate WMP Vol 3, Part 2, UTC availability for 6K***. (* denotes all in the series)

2.1.3.3. Function as the Combat Communications PEM for PEC 27422.

2.1.4. ANG/XOB will:

2.1.4.1. Serve as functional manager for ANG assets.

2.1.4.2. Function as ANG ATC PEM for PEC 53110.

2.2. Supported Air Components Airfield Operations Responsibilities.

2.2.1. Supported air components airfield operations planners usually include the Numbered Air Forces (NAF) combat airspace managers, PACAF and USAFE airfield operations staffs, and theater Special Operations Forces (SOF) for unconventional activities.

2.2.2. Develop airfield operations portion of OPlans including the initial and sustaining phase requirements at each location in the AOR.

2.2.3. Modify existing OPlans or identify requirements needed to support contingency operations.

2.2.4. Coordinate initial theater airfield operations support requirements in OPlans with HQ AMC/DOA to ensure airlift requirements are included.

2.2.5. Determine method of rotation for personnel (Palace Blitz/Tenure or UTC). Ensure appropriate line remarks such as Special Experience Identifiers (SEIs) are included in the Deployed Manning Document (DMD) so the right types of personnel deploy to support the operations.

2.2.6. Ensure DATCALS and personnel participate in sufficient number of exercises possible to practice war fighting skills.

2.2.7. Follow guidance in AFMAN 10-401.

2.2.8. Code all airfield operations positions (NAF/MAJCOM) that require functional expertise, experience, and training in contingency or war planning functions (i.e., UTCs, TPFDDs, mobility plans, etc.) with the “R” prefix (minimum one per airfield operations/combat airspace staff). “R” prefix is designated for planners at all levels IAW AFMANs 36-2105 and 36-2108.

2.3. Supporting Commands Airfield Operations Responsibilities.

2.3.1. All MAJCOMs including ANG with any airfield operations deployment function will establish Designed Operational Capability (DOC) statements and ensure units organize, equip, and train, personnel to standards in the DOC statements.

2.3.1.1. Ensure personnel have the appropriate combat skills as defined in the training section of this manual. (Currently, each UTC-tasked MAJCOM is responsible to fund course attendance; however, AFFSA will advocate funding at the Air Force level.)

2.3.2. Ensure MAJCOM TERPS support (i.e., instrument procedures reviews, waiver processing, etc.) is provided to supported command.

2.3.3. MAJCOM functional managers periodically check (minimum once a year) OPlan Time-Phased Force Deployment Data (TPFDD) sourcing.

2.3.4. Follow guidance in AFMAN 10-401.

2.3.5. Code all Unit Manning Document (UMD) positions that require functional expertise, experience, and training in contingency or war planning functions (i.e., UTCs, TPFDDs, mobility plans, etc.) with the “R” prefix (minimum one per MAJCOM airfield operations staff). “R” prefix is designated for planners at all levels IAW AFMANs 36-2105 and 36-2108.

2.3.6. MAJCOMs will have the responsibility to provide training and standards for command unique equipment requirements.

2.3.7. HQ ACC Specific Tasks.

2.3.7.1. Establish and maintain joint SC, DO, and ANG cooperative DATCALs management effort to achieve logistics support and training.

2.3.7.2. Serve as the gaining MAJCOM for all CONUS-based ANG units performing ATC missions.

2.3.7.3. Function as the Manpower and Equipment Force Packaging System (MEFPAK) responsible command for airfield operations UTCs.

2.3.7.4. Serve as lead command for developing and standardizing DATCALs UTC operators combat skills training, to include ANG.

2.4. Wing Responsibilities.

2.4.1. Ensure personnel are mobility qualified and depart home station appropriately equipped to meet mission requirements as outlined in the tasking message (see Attachment 2 for recommended list of equipment).

2.4.2. Minimum standard for each active duty UTC position tasked is to have one primary and one alternate trained and qualified. For example: If Blank AFB is assigned one tower UTC, with a total of four personnel, then eight personnel need to be trained. ANG units are authorized manning at a 1 to 1.2 ratio, IAW the AF C4I Panel.

2.5. Deployed Structure.

2.5.1. The command and control relationships and structure for deployed operations will be consistent with AF, Numbered Air Force (NAF) Concept of Operations (CONOPS) for Theater Battle Management (TBM). The force components will be subordinate to the Joint Task Force (JTF) IAW Joint Pub 3-52. The AFFOR/A3 and A6 supports the AFFOR/CC and will maintain control over AF theater level combat airspace, air traffic control and airfield managers, and DATCALs maintainers. NAF UTCs may support the designated service component commander or multinational operations as assigned. The wing commander at deployed locations supports the AFFOR/A3 for operational and AFFOR/A6 for DATCALs equipment issues.

2.5.2. Deployed Wing Structure. The command and control structure will be consistent with Air Force and wing plans. Airfield operations personnel deploy with the parent wing to the extent possible depending on airfield operations facilities at the deployed location. When equipment is deployed, it operates under the control of the deployed wing commander. The Operations Support Squadron (OSS) Commander or senior airfield operations representative is the wing’s focal point for all DATCALs and airfield operations.

2.5.2.1. Airfield Operations. The deploying airfield operations locations will each have a single Airfield Operations Flight Commander (AOF/CC) under the OSS. When equipment is deployed, the initial AOF/CC is usually an officer from the Combat Communications Groups (CCG) airfield systems flight. (Note: After the initial deployment, typically 120 to 179 days, the CCG is usually not required to augment the mobile equipment for successive rotations; however, the supporting MAJCOMs make the sourcing decision for rotations. Recommend augmentation of air traffic controllers come from fixed facilities.) The AOF/CC acts as the site location representative for all airfield operations issues. The AOF/CC provides oversight responsibilities for DATCALs equipment, maintenance, and airfield operations personnel. The AOF/CC will coordinate DATCALs placement and service for host country, international flights, and theater operations. The OSS/CC and

AOF/CC determine the local airfield operations organization (i.e., chief controller(s), chief of training, chief airfield manager, etc.).

2.5.2.2. In-garrison CCG Deployed ATC Duty Responsibilities. In-garrison assigned air traffic control managers primarily ensure currency of equipment training for deploying augmentees, timely deployment of equipment and supplies, and facilitate installation of equipment and initiation of air traffic services at deployed locations. Secondary role includes controlling air traffic and/or supervising facilities during initial deployment rotation. Note: Additionally, CCG TERPS specialists are responsible for siting equipment and developing instrument procedures for the NAVAIDS.

Chapter 3

AIRFIELD OPERATIONS UNIT TYPE CODES (UTCs)

3.1. Air Traffic Control.

3.1.1. 7FVL9-ATC Tower Augmentation (1-1C171 and 3-1C151s): Provides ATC tower personnel to augment mobile or fixed control tower facilities. Controllers must possess either 056/055 control tower SEIs. Note: The 1C171 must possess 055 SEI. Facility rated 1C131s with 6 months experience after certification may substitute for 1C151s.

3.1.2. 7FVLC-ATC Radar Operations Augmentation (1-1C171 and 2-1C151s): Provides radar qualified air traffic controllers to augment mobile or fixed radar approach controls. All controllers must possess 364/362 RAPCON SEI. Note: The 1C171s must possess 362 and 365 SEIs. Facility rated 1C131s with 6 months experience after certification may substitute for 1C151s.

3.1.3. 7FVLF-AOF/CC and Chief Controller (1-13MX and 1-1C191): Provides augmentation support for ATC operations/airfield operations/liaison functions at control centers, host nation/allied ATC centers, embassies, and headquarters staff.

3.1.4. 7FVLG-ATC/Combat Airspace Management Augmentation (1-13MX and 2-1C171s): Provides military air traffic expertise to support/coordinate airspace control functions; including implementation of air control measures, integration of air traffic facilities within theater and support air navigation aid system operations. Supports airspace control element within theater air operations center and liaises with regional operations control centers, and host nation facilities. Joint Air Operations Staff Course, participation in one Air Operations Center (AOC) exercise (900 or CK SEI) required.

3.1.5. 7FVLP-Air Traffic Control Precision Radar Operations (3-1C151s): Provides precision radar qualified air traffic controllers to augment mobile/fixed Precision Approach Radar (PAR) facilities.

3.2. Airfield Management: 7FVLB-Airfield Management Augmentation (1-1C071 and 2-1C051s): Provides bare base or host nation airdrome augmentation to support flight operations. Acts as the focal point for all matters concerning airdrome ground operations to include, tactical parking, coordinate on all hot/unsafe gun area and hot refueling areas, arm-dearm areas, taxi-launch procedures, etc.

3.3. Special Operations UTCs with Airfield Operations Capabilities.

3.3.1. 8CCSQ-Special Tactics Team (STT) Combat Control C2 Element: Deployable to bare base with base operating support provided. Provides command and control, operations management, administrative support for sustained operations of employed STT UTCs. Supports up to three 8CCBD. Capable of 24 hour operations for up to 45 days without resupply. UTC 8CCLG must be deployed with this UTC if maintenance and logistics support is required. AFSC 3A0X1/3S0X1, 13DX/C13DX are interchangeable. For ANG forces, AFSCs 2E153 and 2S071 are interchangeable.

3.3.2. 8CCBD-STT Combat Control Operations: Deployable to bare bases with base operating support provided. Provides positive control of the terminal objective area aviation environment. Provides VFR/limited IFR ATC services. Provides strategic reconnaissance/surveillance, offensive fire targeting/spotting, forward arming and resupply point (FARP) control, sitting/operations of NAVAIDS/Becons, and assault zone selection, assessment, survey and establishment. Demolition capable. Can support 24 hour operations for up to 3 landing zones for up to 14 days, or be divided into smaller elements as mission requirements dictate. Capable of being employed by parachute, overland, airland, scuba, watercraft, or alternate insertion/extraction. For operations exceeding 14 days, must be augmented by 8CCLG plus appropriate equipment only resupply UTCs. Special mission equipment UTCs will be deployed as mission requirements dictate.

3.3.3. 9AATA-Special Operations Liaison Element (2-13MX/1C191): Provides Air Force Special Operations Forces (AFSOF) augmentation to theater Special Operations Command (SOC) and to provide SOC liaison to AOC staff. (Note: AFSOC also has other command unique UTCs to support AFSOC missions that have controllers embedded.)

3.4. Miscellaneous UTCs with Embedded Airfield Operations Capabilities.

- 3.4.1. 6KMF9-Communications Electronic Sq Management Element with AOF/CC (1-13MX and 2-1C171s): Provides AOF/CC and Terminal Instrument Procedures Specialist (TERPS) (SEI 361) from Combat Communications Squadrons to manage/site and develop instrument procedures to support DATCALs equipment.
- 3.4.2. 7E1AE-TALCE (1-1C051): Has minimal airfield management expertise to operate at deployed locations.
- 3.4.3. 7E1AP-Airfield Survey Team (2-1C071s): Designed to conduct worldwide airfield site surveys to assess airfield capabilities in support of airlift and tanker operations.
- 3.4.4. 7FVX1 (5-13MX, 2-1C191, and 1-1C171)-Air Operations Center (AOC) Quick Reaction Package (QRP): AOC QRP provides limited staff and equipment to command, control, plan, and coordinate limited air operations (300 sortie Air Tasking Order (ATO) capability).
- 3.4.5. 7FVX2 (3-13MX and 4-1C171)-AOC Limited Response Package: Provides staff and equipment to command, control, plan, and coordinate limited contingency operations (1,000 sortie ATO)--deploys with 7FVX1.
- 3.4.6. 7FVX3 (2-13MX and 1-1C171)-AOC Theater Response Package: Provides staff and equipment to command, control, plan, and coordinate theater air operations (2,000 sortie ATO)--deploys with 7FVX1 and 7FVX2.
- 3.4.7. 9AAJB (1-13MX and 2-1C171): Air Mobility Element (AME) Combat Airspace Management Support. Provides staff to coordinate AME airspace requirements with AOC combat airspace planners.

Chapter 4

DEPLOYABLE ATCALs EQUIPMENT

4.1. Basing.

- 4.1.1. Active duty DATCALs are based in:
 - 4.1.1.1. The 1st Combat Communications Squadrons (CBCS) at Ramstein AB, Germany
 - 4.1.1.2. The 3 CCG at Tinker AFB, OK
 - 4.1.1.3. The 5 CCG at Robins AFB, GA
 - 4.1.1.4. AFSOC maintains DATCALs at various locations
- 4.1.2. ANG DATCALs are based in Air Traffic Control Squadrons (ATCS) at:
 - 4.1.2.1. 235 ATCS at Selfridge ANGB, MI
 - 4.1.2.2. 241 ATCS at St Joseph, MO
 - 4.1.2.3. 243 ATCS at Cheyenne, WY
 - 4.1.2.4. 245 ATCS at McEntire ANGB, SC
 - 4.1.2.5. 248 ATCS at Meridian, MS
 - 4.1.2.6. 258 ATCS at Johnstown, PA
 - 4.1.2.7. 259 ATCS at Alexandria, LA
 - 4.1.2.8. 260 ATCS at Pease International Tradeport, NH
 - 4.1.2.9. 270 ATCS at Klamath Falls, OR
 - 4.1.2.10. 297 ATCS at Barbers Point, HI

4.2. Threat. DATCALs are subject to the same level of threat as the wing or group assets they support. The deployed elements can expect to operate in an environment that includes electronic warfare threats to transmissions, collateral damage threats to terminals and/or shelters, and automated systems. Appropriate electronic countermeasures, transmission operations, and information security procedures must be followed. References that detail these threats are Electronic Combat Threat Description (DST-2660F-731, DIA 23 Dec 92), Threat Environment Description for Command, Control, Communications, Computers, and Intelligence (C4I) systems and networks, and Threat Support Document, Worldwide Threat to Air Bases 1991-2001 (FTC-2660F-265-92, NAIC, 31 Dec 91).

4.3. Equipment Integration with Other Systems. DATCALs do not have a dedicated communications net; therefore, it should be capable of integration with existing communications (both US and allied) to form a system that ensures safe, efficient flow of air traffic supporting the combat effort and maximizing combat flexibility.

- 4.3.1. Communications/information support to DATCALs will be consistent with the USAF C4I Horizon document which outlines the planning perspective for information systems and the application of information technology across the spectrum of Air Force operations. Common user networks are preferred for communications linking DATCALs to the operating environment. DATCALs operate nearly autonomously from other theater systems. These circuits should be provided as part of the base communications infrastructure. No unique communications of information systems support is required.

4.3.2. DATCALs must have reliable, jam-resistant radios, radars, secure radios, mode 1-4 and mode S transponder capabilities to include capabilities to interface with both the Theater Air Control System (TACS) and ground-based air defenders. Currently, interface capabilities are accomplished through voice coordination.

4.4. Landing Control Central-6KBV1-AN/TPN-19 (Active Duty).

4.4.1. The AN/TPN-19 Landing Control Central (Radar Set) can be configured as a complete RAPCON or Ground Controlled Approach (GCA) facility. The radar unit is used by air traffic controllers to identify, sequence, and separate participating aircraft; provide final approach guidance, guidance through air defense corridors and zones, and coordinate ID and intent with local air defense units at assigned airports/air bases/bare bases. These services can be provided in all types of weather. Normally requires 4-7FVLC and 2-7FVLP UTCs as augmentation; however, the situation will drive actual requirements.

4.4.1.1. The radar unit is capable of identifying aircraft using secondary radar within a 200 nautical miles (NM) radius and primary radar coverage to 60 NM. The PAR provides both azimuth and elevation information from 15 NM to touchdown. Both the PAR and ASR can be used as final approach aids.

4.4.1.2. The unit has six display indicators capable of providing both Airport Surveillance Radar (ASR) and PAR. With all indicators and communications equipment operational, the unit is capable of taking over ATC operations at busy airports. Depending on antenna location, the PAR system is capable of providing service for up to four runways, but the unit can provide approach guidance to only one runway at a time.

4.4.2. Setup Time: Ten maintenance personnel are needed to install the AN/TPN-19 within 26 hours, not including site survey. After setup, six radar maintenance personnel can maintain the TPN-19, with the other four available for redeployment. The power production and air conditioning maintenance personnel may be "pooled" with other personnel to meet deployed location requirements. Requires flight inspection to become operational. Note: Under combat limited situations with no augmentees assigned, the standard setup time is 36 hours.

4.5. Landing Control Central-6KBK1-AN/MPN-14K (RAPCON) (ANG).

4.5.1. The AN/MPN-14K Landing Control Central (Radar Set) can be configured as a complete RAPCON or GCA facility. The radar unit is used by air traffic controllers to identify, sequence, and separate participating aircraft; provide final approach guidance, guidance through air defense corridors and zones, and coordinate ID and intent with local air defense units at assigned airports/air bases/bare bases. These services can be provided in all types of weather.

4.5.1.1. The radar unit is capable of identifying aircraft using secondary radar up to a 200 NM radius and primary radar coverage to 60 NM. The PAR provides both azimuth and elevation information from 15 NM to touchdown. Both the PAR and ASR can be used as final approach aids.

4.5.1.2. The unit has three ASR display indicators and one PAR indicator located in the operations shelter, and one each ASR and PAR indicator located in the maintenance shelter. Complete operations are conducted from the operations trailer. The system is limited to a single runway but has the capability of providing opposite direction runway operations with the aid of a transportable turntable.

4.5.2. Setup Time: Ten maintenance personnel and six controllers are needed to install the AN/MPN-14K within 26 hours. Requires flight inspection to become operational.

4.6. ATC Tower Central-6KBG1 (ANG) or 6KBG2 (Active Duty)-AN/TSW-7.

4.6.1. The AN/TSW-7 is a mobile control tower used to provide ATC capabilities where no control tower exists (bare base operations) or where the fixed control tower is not operational. The AN/TSW-7 has limited capabilities; however, it provides controllers with the minimum items necessary to rapidly launch and recover (to include silent launches) participating aircraft in the most expeditious manner. Normally requires 2-7FVL9 UTCs to augment the 6KBG2 UTC; however, the situation will drive actual requirements.

4.6.1.1. The AN/TSW-7 provides air traffic controllers, landlines, UHF/VHF radios, crash phone, emergency warning and evacuation alarm signal, barometer, tape recorders, binoculars, NAVAID monitor, light guns, and wind measuring equipment (no BRITE/D-BRITE capability).

4.6.1.2. There are three controller positions: local control (controls airborne aircraft and runway traffic), ground control (controls all other aircraft ground movements and vehicles), and flight data (handles administrative coordination). With all three positions manned, the TSW-7 doesn't have any additional space for other personnel such as Supervisor of Flying or dedicated watch supervisor.

4.6.2. Setup Time: Seven maintenance personnel should have the mobile tower operational with 3 UHF radios plus a 243.0 MHz guard receiver, 2 VHF radios plus 121.5 MHz guard receiver, and 1 light gun operational within 16 hours. After the unit is fully operational, two ground radio technicians can maintain it, with air conditioning, power, and telephone support being supplied by the deployed organic wing.

4.7. Tactical Air Navigation (TACAN)-6KBA1-AN/TRN-26.

4.7.1. The AN/TRN-26 is designed for use at remote landing strips and forward operating areas. The system provides radio navigation information (bearing, identification, and distance). Due to the UHF carrier, the transmitted information is limited to line of sight (LOS).

4.7.1.1. The system has usable range of 35 NM at 1,500 feet above unobstructed terrain and a reception range of 100 NM. Actual system coverage and reception depends upon deployment location. Associated monitoring equipment provides a continuous check of all significant parameters and shuts the TACAN off when a fault occurs.

4.7.1.2. Frequency range: Low band channels 1-63, TX 962-1024 MHz; RX 1025-1087 MHz; High band Channels 64-126, TX 1151-1213 MHz; RX 1088-1150 MHz.

4.7.2. Setup Time: All assigned maintenance personnel should have the TACAN operational within 4 hours. At least one integral monitor and either primary or backup, with at least 360W output power and identification must be operational before the TACAN can be declared operational. Requires flight inspection to become certified for IFR use.

4.8. TACAN-AN/TRN-41.

4.8.1. The AN/TRN-41 is a portable, lightweight, air droppable, unmanned TACAN designed to provide bearing, facility identification, and distance information. The TACAN transmits continuous bearing information to an unlimited number of aircraft and provides slant range distance information. Due to the UHF carrier, the transmitted information is limited to LOS use only with a range of 75 NM. Actual system coverage and reception depends upon deployed location. Note: This TACAN does not possess external monitoring device as required by AFMAN 11-225; therefore, it is not certifiable for IFR use.

4.8.2. Setup Time: Three trained personnel should have the system operational in 4 hours. The TACAN must be transmitting identification and at least 100W of power prior to declaring the system operational.

4.9. Mobile HF/UHF/VHF Radio System-6KGQ1-MRC-144.

4.9.1. The AN/MRC-144 is a mobile HF/VHF/UHF communications facility (AN/GRC-206) mounted in a M-998 Highly Mobile Multi-Wheeled Vehicle (HMMWV). It provides Single Sideband (SSB) HF, VHF/FM, VHF/AM, and UHF communications. This system can be remoted up to two kilometers. The HF radio has nonsecure phone patch capability and all radios have secure voice capability. When used in an ATC capacity, ATC personnel must be tasked separately. Provides VFR control tower operations until sustaining equipment arrives then it can be redeployed as necessary.

4.9.2. Air Traffic Control Personnel Required:(1)7FVL9 UTC (MODIFIED)This UTC must be tailored to meet this limited air traffic control capability. Required personnel include two 1C171 with SEI 055 (vice the usual one) and tw 1C151 with SEI 056 (vice the usual three).

4.9.3. Setup Time: One radio technician and 1 radio operator should have HF/SSB, VHF/FM, UHF/AM, and VHF/AM radios available over 90 percent of the tuning range in 45 minutes. If the MRC-144 is being used primarily as a backup control tower or command post, the radio operator may not be required and may be available for redeployment. The ground radio technician may not be required if other UTCs requiring radio maintenance are deployed with the wing.

4.10. VHF/UHF-AM Radio Set-AN/TRC-176.

4.10.1. The AN/TRC-176 is a portable UHF/VHF radio set operating in the 1160 to 149.975 or 225.0 to 399.975 MHz frequency bands. It can provide one channel of either UHF or VHF voice communications (both UHF and VHF cannot be operated simultaneously) and can be secured with TSEC/KY-57 and operate in the HAVE QUICK mode to prevent enemy jamming. This system, although not a part of DATCALS, acts as an important back-up ATC communications capability in the event of degraded operations from the ATC deployable systems.

4.10.2. Air-to-ground radio operations encompass the majority of missions for this system, although it can be used for local command and control and engineering nets.

The operational range for local area ground-to-ground communications is less than 35 miles with minimal obstructions between communications points. For air-to-ground the operational range is up to 200 miles line-of-sight.

4.10.3. Setup Time: One ground radio technician should have 8W of power over 90 percent of the VHF and UHF tuning ranges within 4 hours. After the unit is operational, the technician can be returned to home base if there are other radio technicians available to maintain the radio.

4.11. Mobile Microwave Landing System (MMLS)-AN/TRN-45.

4.11.1. Purpose: The AN/TRN-45 (MMLS) is a lightweight, transportable ground-based precision guidance approach system for MLS avionics equipped aircraft. Normal setup is a collocated configuration where elevation and azimuth antennas are situated together at the typical ILS glideslope antenna location. The collocated configuration requires using aircraft to be equipped with specialized MLS receivers (e.g., CMLSA, PLSR). A split-site configuration places the azimuth antenna at the departure end of the runway.

- 4.11.1.1. The system has an azimuth coverage of +/- 40 degrees, elevation coverage of 0.9 degrees to 15 degrees, and a 15 NM range under optimal conditions.
- 4.11.1.2. Frequency range: MMLS 5031-5091 MHz, DME/P 979-1150 MHz.
- 4.11.2. Setup Time: Three trained personnel can set up the MMLS in a co-located configuration in 60 minutes. Set up in a split-site configuration will take 2 hours (times do not include site survey or transportation time). Requires TERPS specialists to draw instrument approach procedures and flight inspection to be certified for IFR use.

4.12. Air Traffic Control Flight-6KTA1 (Active Duty)/6KTA2 (ANG).

- 4.12.1. Provides all weather air traffic control operations from a bare base. Includes AOF/CC, TERPS staff, admin support, ATC tower (6KBG2 or 6KBG1), ATC radar (6KBV1 or 6KBK1), and TACAN (6KBA1). The Active Duty UTC requires augmentation by two 7FVL9 for tower, four 7FVLC and two 7FVLP for the radar.
- 4.12.2. Setup Time: Refer to setup times for individual equipment listed above (i.e., TPN-19, TSW-7, etc.).

Chapter 5

OPERATIONS

5.1. General.

- 5.1.1. Concept of Airspace Control. Generally, in a combat theater/AOR, air traffic and airspace command and control systems are integrated under a single combined/joint forces airspace control authority. USAF ATC facilities and personnel (fixed, tactical, and augmentation) become an integral part of the Theater Air Control System (TACS). USAF controllers perform terminal air traffic operations, combat airspace control within the TACS, or liaison/augmentation at host nation control facilities. All USAF ATC planning, training, and operating procedures must reflect this concept and any additional mission/roles defined by combat.
- 5.1.2. Mission Priorities. Stated in the Defense Planning Guidance. Usually include:
 - 5.1.2.1. Support for 2 Major Regional Conflicts (MRC).
 - 5.1.2.2. Operations Other Than War (OOTW) such as humanitarian relief and disaster response.
 - 5.1.2.3. Exercises, operational readiness inspections, and test or demonstrations.
- 5.1.3. Flight Inspection Center (FIC). The DoD flight inspection capability for contingency or combat operations is assigned to HQ AFFSA/FIC. The 1991 USAF/Federal Aviation Administration (FAA) Memorandum of Agreement (MOA) transferred six BAe 125-800A (C-29) aircraft to FAA. The FAA uses the assigned USAF personnel and aircraft to flight inspect navigational aids outside the scope of FAA planned activities (i.e., combat or contingency operations).
 - 5.1.3.1. Capabilities and Responsibilities.
 - 5.1.3.1.1. FIC flight inspects TACANs, VORTACs, VORs, NDBs, MLS, ILS, ATC radars, approach airfield lighting, and other navigational aids. Flight inspection ensures navigational aids meet signal quality and accuracy parameters, and that instrument approach procedures and obstacle clearance criteria are met.
 - 5.1.3.1.2. FAA supplies civilian maintenance personnel and Mobility Readiness Spares Package (MRSP) equipment for operations. Therefore, aircraft maintenance support should be located outside hostile areas.
 - 5.1.3.1.3. The optimum beddown base for the C-29s should be within 300 miles of airfields to be flight inspected.
 - 5.1.3.1.4. Terminal Instrument Procedures Specialist (TERPS) must supply approach procedures packages and specific airfield site survey data to flight inspection aircrews, and the FIC liaison assigned to the AOC, before flight inspection can begin. Flight inspection aircrews and TERPS should normally meet face-to-face to coordinate ATC and operational requirements before airborne inspections commence.
 - 5.1.3.2. FIC UTCs.
 - 5.1.3.2.1. 3MAF1-Contingency Flight Inspection Support: Provides one C-29 flight inspection aircraft and crew to evaluate and certify ATCALS for limited contingency/wartime requirements. Plan for two, 3.0 hour sorties per day; three sorties per day may be possible depending on available support and local conditions. Majority of operations limited to day, visual meteorological conditions (VMC) due to regulatory and safety factors. Deployable to a main base or limited base with 5,000 feet hard surface runway. Longer runway length required in hot weather or icy conditions. Requires infrastructure support from host wing/group when operating within AOR (i.e., intel, life support, weather, equipment issue, individual weapons storage, etc.).
 - 5.1.3.2.2. 3MAF2-Theater Flight Inspection Support: Provides two C-29 flight inspection aircraft and crews to evaluate and certify ATCALS for contingency/wartime requirements at multiple airfields in a theater of operations. Plan for two, 3.0 hour sorties per day, per aircraft; three sorties per day may be possible depending on available support and local conditions. Majority of operations limited to day, VMC due to regulatory and safety factors. Deployable to a main base or limited base with 5,000 feet hard surface runway. Longer runway length required in hot weather or icy conditions. Requires infrastructure support from host wing/group when operating within AOR (i.e., intel, weather, life support, equipment issue, individual

weapons storage, etc.). The FAA will establish a maintenance base with deployed MRSP and aircraft maintenance personnel (civilian) in or near the AOR. Includes one pilot in the AOC used for ATO coordination.

5.1.3.3. Requesting flight inspection support: The operational command should task one of the UTCs in the TPFDD and send a message requesting support. Note: Planners should ensure flight inspection capabilities are planned early on so diplomatic clearance delays are kept to a minimum.

5.1.3.3.1. Message address contingency/combat support: FAA Aerocenter Oklahoma City OK//FICO/ IFIO/AVN-1AF//. Info copies to HQ FAA Washington DC//ADA-20//; HQ AFFSA Andrews AFB MD//CC//; and HQ USAF Washington DC//XOO/XOOO//.

5.1.3.3.2. Message address routine support (e.g., exercises, readiness inspections): FAA Aerocenter Oklahoma City OK//FICO//. Info copy to FAA Aerocenter Oklahoma City OK//AVN-1AF/IFIO//.

5.2. Deployed Responsibilities.

5.2.1. Air Operations Center (AOC) and Theater Planners. The directed lead element with theater combat airspace management personnel to support the AOC provides the flexibility needed within the airspace control system to meet contingency situations that necessitate rapid employment of forces. Combat airspace management in the AOC provides joint airspace management which is the critical element to the promotion of effective, safe, yet flexible use of airspace; and allows the commanders to operate with minimum constraints. They develop the Airspace Control Order (ACO) and Airspace Control Plan (ACP) and also act as the initial airfield operations planners for contingencies and wartime operations.

5.2.1.1. Assigns operational control areas in coordination with the Joint Task Force (JTF)/Combined Tasked Force (CTF) and host nation.

5.2.1.2. Tailors DATCALs and airfield operations packages to meet specific mission needs (every attempt should be made to keep the package as small as possible).

5.2.1.3. Coordinates airfield operations support for initial AMC airlift with HQ AMC/DOA.

5.2.1.4. Works with the AFFOR and Special Operations Command (SOC) staffs to coordinate the movement/replacement of the Special Tactics Teams (STT) with airfield operations personnel.

5.2.1.5. Assigns ATC automation via data link with the TACS through the tactical operations data (TACOPDAT) and operations tasking (OPSTASK) link.

5.2.1.6. Develops airspace control procedures that are simple and flexible with minimal reliance on voice communications.

5.2.1.6.1. Develops, monitors, and deconflicts airspace control measures/procedures in the AOR.

5.2.1.6.2. Ensures ATC plans are compatible with system capabilities.

5.2.1.6.3. Develops flow control procedures that readily allow EMCON operations.

5.2.1.6.4. Coordinates terminal control procedures with each base/airfield operations and/or host nation base operations authority. Include surge launch and recovery procedures.

5.2.1.6.5. Coordinates airspace control procedures with air base ground defense and air defense procedures.

5.2.1.6.6. Ensures airspace control procedures comply with published rules of engagement.

5.2.1.7. Schedules and coordinate all flight inspection requirements with the FAA Flight Inspection Central Operations (FICO) or theater AFFSA/FIC liaison assigned to the AOC. All newly installed mobile or fixed-site navigational facilities, and some existing foreign facilities, should be considered unreliable until flight inspected.

5.2.1.8. Ensures instrument procedures, not published in a DoD or National Oceanic Atmospheric Administration Flight Instrument Procedures (FLIP) document, have been reviewed by the applicable MAJCOM TERPS and that aircrews are informed when these procedures do not meet recognized obstruction clearance or flight inspection criteria (reference AFI 11-206, AFMAN 11-230).

5.2.1.9. The AFFOR staff will develop a personnel rotation plan as coordinated with the AOC (airfield operations planners).

5.2.1.10. Develops guidance for employment addressing waivers to separation standards, ATO versus flight plan filing, and ATC radar performance of air defense surveillance functions.

5.2.1.11. Transition of some duties from initial AOC quick reaction package to AFFOR staff is situational.

5.2.2. AOF/CC will coordinate:

5.2.2.1. Terminal area procedures with all users at that deployed location.

5.2.2.2. Area airspace and terminal area operations procedures with the AOC airspace control center and/or host nation liaison team for inclusion into the ACP, ACO, and/or host nation publications as appropriate. Advise the AOC of any change in airfield status immediately.

5.2.2.3. Terminal area operation procedures with the base defense operations center for integration into the base air defense and air base ground defense plans and operations.

5.2.2.4. Integration into the TACS IAW AOC guidance contained in the TACOPDAT and OPTASK Link messages via the ACP.

5.2.3. The host service/wing is responsible for providing Base Operating Support (BOS) to include sleeping and mess facilities, fuel, power production, vehicle support, secure communications, and security. OSS personnel are responsible for coordinating with deployed logistics agencies to arrange for adequate BOS.

5.3. Limiting Factors.

5.3.1. DATCALs. Airlift into the theater is extremely limited during the deployment and employment phases. DATCALs will be prioritized by the deployment operations planners along with the other assets and missions going to the designated location and will be included in the TPFDD. The DATCALs planners must get the equipment and personnel to the bases in sufficient time to provide operational support.

Flight inspection.

5.3.2.1. Aircraft movement in Instrument Meteorological Conditions (IMC) and at night, especially by the Civil Air Reserve Fleet (CRAF), may be dependent upon airfield navigation/landing aids and approaches being formally certified by FIC flight inspection.

5.3.2.2. Formal flight inspection of newly installed navigational aids requires day, VMC as a minimum. Weather requirements in mountainous terrain may be greater than minimum VMC.

5.3.2.3. Flight inspection aircraft have no on-board defensive systems. Flight inspection operations in a hostile area may be delayed until threats are suppressed or escort assets are allocated to the flight inspection mission.

5.4. Initial Deployment. Minimal airfield operations services are provided until sustaining DATCALs arrive. Small, lightweight, minimum capability, and highly mobile packages will provide initial Visual Flight Rules (VFR) or limited (procedural control rather than positive control) Instrument Flight Rules (IFR) ATC. Fighting forces and supporting units deploying in initial phases of a crisis should be self-sufficient (i.e., food, water, shelter, etc.) for up to 14 days.

5.4.1. ATC Elements:

5.4.1.1. Special Tactics Teams (STTs): Air Force STTs are designated as combat forces and assigned to Air Force Special Operations Command (AFSOC). The STTs are tasked through Special Operations Command (SOCOM) and execute SOF missions, strategic and theater airlift missions, and other missions with SOF and non-SOF forces. STTs provide austere airfield operations capabilities to the commander. STTs also provide limited weather observations and C3 in the objective area. STTs are capable of conducting operations for the initial 14 days of operations. After this time STTs will require resupply and/or augmentation UTCs to continue operations. STTs usually begin the ATC battlefield support process in austere environments. These assets may or may not remain at the location after initial deployment airflow is complete. They support all Special Operation Force unique missions and locations not originally tasked to receive general ATC support. Capabilities can include: limited visual control tower, TACAN, and a precision landing system (i.e., MMLS).

5.4.1.2. ATC.

5.4.1.2.1. Bare Base. Initial air traffic services may consist of a MRC-144 package (HMMWV with radios) from either fixed base Wing Initial Communication/Mobility Initial Communication packages or CCGs and ANG squadrons. Capabilities can include: limited visual control tower, TACAN, and a precision landing system (i.e., MMLS). ATC usually replaces STT controllers at beddown locations where they were used to provide initial wing support.

5.4.1.2.2. Host Nation Facilities. ATC can serve as augmentation to host nation ATC facilities as directed by supported command.

5.4.2. Initial Airfield Management.

5.4.2.1. Bare Base. The Tanker Airlift Control Element (TALCE) usually provides initial airfield management/base operations/command and control support; however, the airfield management UTC may be required to augment or provide initial support.

5.4.2.2. Host Nation Facilities. Airfield management augmentation personnel can provide support for flying operations at host nation airfield.

5.5. Sustaining Deployment. DATCALs will provide sustaining airfield operations to supplement the initial deployment phase and provide required positive control IFR capability up to dual runway precision approach. This will provide full base airfield operations support for an extended period of time. A full range of terminal (mobile control tower, ASR, precision landing capabilities, and/or navigational aids both space- and ground-based) and transmission medium equipment is included in this phase. Airfield management augmentation personnel from CONUS bases are required for this phase.

5.6. Redeployment. DATCALs are theater assets and not considered organic to the wing. When the wing rotates out of theater, DATCALs equipment may remain in place. By leaving the DATCALs equipment, it reduces airlift and possibly flight inspection requirements. It may become necessary to rotate personnel as the theater matures and airlift becomes available.

5.7. Personnel Rotation. The supported AF Component Command (AFCC) will determine if rotations are sourced using either PALACE MANNING or UTC programs.

5.7.1. PALACE MANNING programs (Blitz, Tenure, etc.) are the primary method to rotate personnel. The program is run by AFPC/DPWRM in conjunction with HQ AFFSA/OL-M (AFPC/DPAAD4) and the personnel community IAW AFI 10-215.

5.7.1.1. AFFSA/OL-M is the primary source to determine fairshare taskings.

5.7.1.1.1. Required to inform the MAJCOM airfield operations functional managers and AFFSA/XAW when PALACE taskings are being referred to commands.

5.7.1.1.2. Required to maintain a master listing of all current airfield operations taskings.

5.7.1.2. MAJCOM airfield operations functional managers should work closely with their personnel community to assist/recommend units/volunteers for the tasking.

5.7.1.3. Personnel rotations for ANG volunteers will be managed by ANG/XOD.

5.7.2. UTC rotation is the secondary method to support deployed airfield operations.

5.7.2.1. The supported AFCC will send a message to sourcing agencies identifying UTCs to be sourced or replaced and the authority for deployment of forces (i.e., appropriate CJSC order).

5.7.2.1.1. If the sourcing agency is unable to fill the tasking, send message to the AFCC and informational copy to "AFOC Washington DC" and AFFSA/XA Andrews AFB MD with justification.

5.7.2.1.2. When notified of the shortfall, the AFCC will notify parent command and AFOC via ops immediate message including "UTC shortfall" in subject line.

5.7.2.1.3. The AFOC through the air staff functional area managers (AFFSA/XAW) will task the shortfall to an appropriate sourcing agency.

5.7.2.2. Supporting commands have the option to frag and insert (identify personnel from more than one base to fill a UTC) as needed to fill required UTCs since ATC is an integral part of the NAS and must provide required services to civil aviation at home bases.

5.7.3. The first rotation should be staggered so all personnel do not rotate at the same time due to training/spin-up time of new personnel. Every attempt should be made to ensure some personnel overlap to ensure a smooth transition.

5.8. Security.

5.8.1. COMSEC must be safe guarded against any physical loss during all phases of their existence.

5.8.1.1. Authentication tables may be required and planners should coordinate to ensure the appropriate amount is available for all locations in the AOR.

5.8.1.2. STU-IIIs are valuable tools in combat operations. Planners at all levels should coordinate to ensure STU-IIIs will be available at the deployed location. Units may need to take their own equipment to ensure this capability.

5.8.2. Physical Security. Air base ground defense is an important facet in combat operations. Coordination with the deployed security police unit will determine the amount of personnel required to protect the airfield operations assets.

5.9. Planning Factors.

5.9.1. Combat attrition factor will be a minimum of three bare bases or as specified in the current Defense Planning Guidance.

5.9.2. Language speaking requirements will be requested through the PALACE BLITZ program and not identified as a UTC requirement.

5.9.3. A site survey/ADVON team of personnel should deploy a few days ahead of the equipment in order to determine siting location and special requirements for connectivity. These personnel would be part of the initial UTC so they would not be considered an extra requirement.

5.9.4. ANG will use volunteerism to the maximum extent possible. When volunteerism is no longer viable two options exist:

5.9.4.1. Active duty assumes responsibility for manning the location.

5.9.4.2. ANG unit is activated using Presidential Selective Reserve Call-up (PSRC) IAW AFI 10-402 and AFH 10-416. During initial planning, ensure this option is available.

5.9.5. Long Term Support. At the 120 day demarcation, regardless of tasked unit(s), HQ ACC/SCX/DOF, with coordination from HQ USAF/SCM/XOO, should initiate requests with the supported CINC, JTF, or agency to consider the installation or lease of semi-permanent C4 systems and DATCALS to replace deployable wartime assets.

5.9.6. Airfield operations planners should ensure required clearances into host nation ATC facilities are requested and check the Status of Forces Agreement for ATC liabilities prior to US forces actively controlling traffic (if invited into country).

5.9.7. To determine airfield operations tasking, deployment locations should have the following capabilities:

5.9.7.1. Radar approach control to provide surveillance radar to the location(s).

5.9.7.2. Control tower.

5.9.7.3. Terminal TACAN/VORTAC to provide a non-precision approach capability.

5.9.7.4. Precision approach capability.

Chapter 6

TRAINING

6.1. General. Personnel and equipment training will be integrated into unit training plans. Air Force deployment training requirements for all airfield operations military personnel subject to deployment or identified to deploy are defined in AFI 10-403, AFI 13-203, AFI 13-213, AFJQS-003, ATC combat readiness and CFETP-1C0X1, airfield management. This manual's objective is to ensure an institutionalized and standardized Air Force training program which spans across all MAJCOMs for the airfield operations. The concept is to use a 3-phase approach: (1) Predeployment training required to be assigned to UTC, (2) Combat skills course, and (3) Exercises-to practice and apply what has been learned.

6.2. Predeployment Training. Mobility tasked personnel, active duty and ANG, must be trained prior to deployment if they are to be effective.

6.2.1. Formal technical schools, follow-on classes, and qualification training packages are available through Air Education and Training Command (AETC). All formal school curriculum (apprentice courses, 1C1X1/13MX Controller Development Course, and Craftsman courses; and 1C0X1 Airfield Mgt) and Air Force Job Qualification Standards (AFJQS)-001, ATC Operator and AFJQS-002, ATC Management must be completed prior to being assigned to a mobility position.

6.2.2. The wing is responsible for training personnel on standard mobility requirements such as government motor vehicle training, chemical warfare training, weapons training, proper mobilization procedures to include personnel processing, airlift load preparation, and palletizing.

6.2.3. UTC assigned personnel must complete unit level exportable training materials (as available) prior to being deployed.

6.3. Combat Skills Training. All airfield operations UTC-tasked personnel (primary and alternate) shall receive combat skills training IAW AFJQS-003, ATC Combat Readiness or CFETP-1C0X1, Airfield Management.

6.3.1. Combat Skill School (CSS). CSS should teach survival skills and equipment familiarization under field conditions.

6.3.2. ACC/ANG will provide adequate training slots at Tinker, Robins, and Alexandria for both active duty and ANG operators/airfield management to maintain combat skills.

6.3.3. The CSS is reoccurring training required every 3 years for UTC assigned personnel.

6.4. Exercises.

6.4.1. The MAJCOMs/NAFs will ensure integration of the DATCALs into training exercises. These exercises should use realistic planning, deployment, and maintenance training for DATCALs UTCs. Field exercises whereby deployable equipment usage and skills are taught is important in the training process to practice how we will fight. UTCs tasked to support DATCALs and combat airspace/liaison positions must be indoctrinated through exercises prior to "real world" deployments if they will be responsible for establishing/managing these systems while deployed.

6.5. Airfield Operations Planners Requirements.

6.5.1. To obtain the "R" prefix requires the following:

6.5.1.1. Six months experience in a planning job and

6.5.1.2. Mandatory attendance at one of the following courses:

6.5.1.2.1. MCADRE002-Contingency Wartime Planning Course

6.5.1.2.2. MCADRE003-Joint Doctrine Air Campaign Course

6.5.2. Attend the Joint Air Operations Staff Course (JAOSC).

JOHN P. JUMPER, Lt General, USAF
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GLOSSARY OF REFERENCES, ABBREVIATIONS, ACRONYMS, AND TERMS***References***

The following references are specifically applicable to this manual:

Joint Operations Planning and Execution Systems (JOPES), Vol 1
AFI 38-205, Managing Wartime and Contingency Manpower
AF/XO-SC, Program Guidance Letter, Organization of Air Force Deployable Command, Control, Communications, and Computers (C4) and Deployable Air Traffic Control and Landing Systems (DATCALs) Force Structure
Joint Pub 3-52, Vol 1, Doctrine for Joint Airspace Control in the Combat Zone
AFDD-12, Aerospace Control
ACCG/USAFE/PACAF 50-38, Integrated Combat Airspace Command and Control (ICAC2)
AFMAN 10-401, Operation Plan and Concept Plan Development and Implementation
USAF War Mobilization Plan, Vol 1 and Vol 3
AFI 13-203, Air Traffic Control
AFI 13-213, Airfield Operations and Base Operations
AFI 10-215, Personnel Support for Contingency Operations
AFMAN 11-225, US Standards for Flight Inspections
AFMAN 11-230, Instrument Procedures
AFM 55-9, US Standards for Terminal Instrument Procedures
AFH 10-416, Personnel Readiness and Mobilization
AFMAN 36-2105, Officer Classifications
AFMAN 36-2108, Airman Classifications
Air Combat Command CONOPS for Theater Air Base Communications

Abbreviations and Acronyms

ACC—Air Combat Command
ACO—Airspace Control Order
ACP—Airspace Control Plan
ADVON—Advance Team
AETC—Air Education and Training Command
AFCC—Air Force Component Command
AFFOR—Air Force Forces
AFSA—Air Force Flight Standards Agency
AFJS—Air Force Job Qualification Standards
AFOC—Air Force Operations Center
AFSOC—Air Force Special Operations Command
AMC—Air Mobility Command
AME—Air Mobility Element
ANG—Air National Guard
AO—Airfield Operations
AOC—Air Operations Center
AOF—Airfield Operations Flight
AOF/CC—Airfield Operations Flight Commander
AOR—Area of Responsibility
ASR—Airport Surveillance Radar
ATO—Air Tasking Order
ATC—Air Traffic Control
ATCALs—Air Traffic Control and Landing Systems
ATCF—Air Traffic Control Flight
BOS—Base Operating Support
C2—Command and Control
C4I—Command, Control, Communications, Computers and Intelligence
CATCO—Chief, Air Traffic Control Operations
CCG—Combat Communications Group
CBCS—Combat Communications Squadron

CFETP–Career Field Education and Training Plan
CINC–Commander in Chief
COMSEC–Communications Security
CONOPS–Concept of Operations
CONUS–Continental United States
DATCALs–Deployable Air Traffic Control and Landing Systems
DMD–Deployment Manning Document
DOC–Designed Operational Capability
EMCON–Emissions Control
FAA–Federal Aviation Administration
FIC–Flight Inspection Center
GCA–Ground Controlled Approach
HF–High Frequency
HMMWV–Highly Mobile Multi-wheeled Vehicle
IFR–Instrument Flight Rules
IMC–Instrument Meteorological Conditions
J1/A1–JT/Air Force Manpower and Personnel
J2/A2–JT/Air Force Intelligence
J3/A3–JT/Air Force Operations
J4/A4–JT/Air Force Logistics
J5/A5–JT/Air Force Plans and Policy
J6/A6–JT/Air Force C4 Systems
JAOSC–Joint Air Operations Staff Course
JDACC–Joint Doctrine Air Campaign Course
JOPEs–Joint Operations Planning and Execution System
JTF–Joint Task Force
MAJCOM–Major Command
MEFPAK–Manpower and Equipment Force Packaging System
METNAV–Meteorological Navigation
MHz–Megahertz
MLS–Microwave Landing System
MMLS–Mobile Microwave Landing System
MOA–Memorandum of Agreement
MRSP–Mobility Readiness Spares Package
NAF–Numbered Air Force
NAS–National Airspace System
NAVAID–Navigational Aid
NM–Nautical Mile
OCONUS–Outside Continental United States
OJT–On-The-Job Training
OOTW–Operations Other Than War
OPLAN–Operations Plan
OPSTASK–Operations Tasking
OSS–Operations Support Squadron
PACAF–Pacific Air Forces
PAR–Precision Approach Radar
PEM–Program Element Monitor
POM–Program Objective Memorandum
QRP–Quick Reaction Package
RAPCON–Radar Approach Control
RFC–Radar Final Control
SEI–Special Experience Identifier
SOF–Special Operations Forces
STT–Special Tactics Team
TACAN–Tactical Air Navigation
TACOPDAT –Tactical Operation Data

TACS—Theater Air Control System
TALCE—Tanker Airlift Control Element
TERPS—Terminal Instrument Procedures
TPFDD—Time-Phased Force Deployment Data
UHF—Ultra High Frequency
USAFE—United States Air Forces in Europe
USSOCOM—US Special Operations Command
UTC—Unit Type Code
VFR—Visual Flight Rules
VHF—Very High Frequency
VMC—Visual Meteorological Conditions
VOR—Very High Frequency Omnidirectional
VORTAC—Very High Frequency Omnidirectional Tactical Air Navigation
WMP—War and Mobilization Plan

Terms

Airfield Operations—Communications (equipment and maintainers) and operations (air traffic controllers and airfield managers) personnel.

Air Traffic Control and Landing Systems—Department of Defense facilities, personnel, and equipment (fixed, mobile, and seaborne) with associated avionics to provide safe, orderly, and expeditious aerospace vehicle movements worldwide.

Area of Responsibility—The geographic area associated with a combatant command within which a combatant commander has authority to plan and conduct operations. (JP 1-02)

Bare Base—A base having minimum essential facilities to house, sustain, and support operations to include, if required, a stabilized runway, taxiways, and aircraft parking areas. A bare base must have a source of water that can be made potable. Other requirements to operate under bare base conditions form a necessary part of the force package deployed to the bare base. (JP 1-02)

Core UTC Package—Aviation unit and support UTCs capable of supporting the combat aviation unit at a Collocated Operating Base or standby base with little or no additional support required, except to account for destination specific requirements or functional area deficiencies not addressed within the Core UTC Package. (AFMAN 10-401)

Designed Operational Capabilities Statement—A summary of a unit's mission for which the unit has been equipped, organized, or designed. (AFI 10-201)

Familiarization Training—Field training to acquaint personnel with specific system or to keep personnel abreast of changing concepts and requirements. (AFM 11-1)

Ground Controlled Approach—The technique for talking down, through the use of both surveillance and Precision Approach Radar, an aircraft during its approach so as to place it in a position for landing. (JP 1-02)

Manpower and Equipment Force Packaging System (MEFPAK) Responsible Command—MAJCOM or Field Operating Agency designated by a HQ USAF functional manager to develop and maintain detailed data for a UTC package for use throughout the Air Force. (AFMAN 10-401)

Precision Approach Radar—Radar displaying range, azimuth, and elevation (in relation to a glide slope) normally encompassing an area from 10 to 20 miles on final approach to a position on the runway intercepted by the glide slope. (AFM 11-1)

Radar Approach Control (RAPCON)—A fixed, mobile, or transportable radar facility that provides approach control service using surveillance radar.

Radar Final Control (RFC) Facility—A fixed, mobile, or transportable radar facility which provides only Precision Approach Radar (PAR), PAR monitored, or Airport Surveillance Radar (ASR) approaches.

Time-Phased Force Deployment Data—The Joint Operations Planning and Execution System data base portion of an operations plan; it contains time-phased force data, non-unit-related cargo and personnel data, and movement data for the operation plan, including: (a). In-place units. (b). Units to be deployed to support the operation plan with priority indicating the desired sequence for their arrival at the port of debarkation. (c). Routing of forces to be deployed. (d). Movement data associated with deploying forces. (e). Estimates of non-unit-related cargo and personnel movements to be conducted concurrently with the deployment of forces, and (f). Estimate of transportation requirements that must be filled by common-user lift resources as well as those requirements that can be fulfilled by assigned or attached transportation resources. Also called TPFDD. (JP 1-02)

Unit Type Code—A five character, alphanumeric code that uniquely identifies each type unit of the Armed Forces. (JP 1-02)

MOBILITY BAG REQUIREMENTS

A-Bag ITEM	QTY	B-Bag ITEM	QTY
A-3 Kit Bag	1	A-3 Kit Bag	1
Batteries	2	Lined Field Cap	1
Belt, Web	1	Mitten Set	1
Canteen	1	Mukluk Insert	1
Canteen Cap	1	Mukluks	1
Chin Strap	1	N3B Parka	1
Cover, Canteen	1	Socks, Wool	4
Cup, Canteen	1	Sweater, Wool	1
Entrenching Tool w/Case	1	Underwear, Bottom	3
Field Pack (w/Straps)	1	Underwear, Top	3
Flashlight	1		
Fork, Mess	1	C-Bag (not usually issued until deployment)	
Glovers, Work and Inserts	1		
Harness Suspend	1	Kit Bag	1
Helmet, Kevlar	1	Overgarment	3
Helmet Cover	1	Filter Canister	4
Insect Repel (Non aerosol)	1	Hood	4
Kit, First Aid	1	Gloves, Chemical	4
Knife, Mess	1	GVO Boots	3
Laundry or Waterproof Bag	1	M8 Paper	1
Mosquito Net	1	Cotton Inserts	4
Mosquito Rod Set	1	M9 Tape	1
Pan, Mess	1	Decon Kit	3
Parachute Cord	50 Ft	Mask MCU 2/P	1
Pocket Tool, Surv	1	Overboots, CW Black	2
Poncho or Overalls, Wet Weather	1		
Pouch, Ammo	1		
Sleeping Bag (Extreme Cold)	1		
Sleeping Pad	1		
Spoon, Mess	1		
Sun Block	1		
Items that may be required by message			
Flack Vest	1		
Items Combat Communications should provide for ATC augmentation personnel to meet OSHA requirements			
Hard Hat, Safety	1		
Goggles, Eye Protection	1		
Back Support	1		
Steel Toe Safety Boots	1pr		